WHEN GOOD CONFLICT GETS BETTER AND BAD CONFLICT BECOMES WORSE: THE ROLE OF SOCIAL CAPITAL IN THE CONFLICT–INNOVATION RELATIONSHIP

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ABSTRACT

This research investigates the moderating effect of social capital on the conflict–innovation relationship and poses the argument that social interaction amplifies the beneficial effect of task conflict and the harmful effect of relationship conflict, whereas trust suppresses these effects. The results of the hypotheses tests with a sample of 232 Canadian-based firms demonstrate that at higher levels of social interaction, the positive relationship between task conflict and innovation is stronger, and so is the negative relationship between relationship conflict and innovation. Furthermore, at higher levels of trust, the positive relationship between task conflict and innovation weakens. This study adds to the emerging contingency perspective pertaining to the study of conflict and provides a more nuanced view of the beneficial role of intra-organizational social capital for innovation.

Developing new products and services or entering new markets requires exchanges among marketing, R&D, and other functional departments that accommodate different viewpoints and promote healthy working relationships (De Luca and Atuahene-Gima 2007; Griffin and Hauser 1996; Li and Calantone 1998; Lovelace et al. 2001). Not surprisingly, conflict—that is, the perceived incompatibilities or disagreements among exchange partners—is unavoidable in such settings (Jehn 1995, 1997; Song et al. 2006), and a common distinction differentiates task and relationship conflict. In the context of cross-functional collaboration, *task conflict* pertains to disagreements between functional departments about ideas and opinions pertaining to a particular task and thus captures contrasting perspectives about specific issues (Amason and Sapienza 1997). In contrast, *relationship conflict* pertains to personality clashes between people in different departments and is characterized by negative feelings such as tension, annoyance, frustration, and irritation (Jehn and Mannix 2001).

An emerging view argues that in the context of organizational *innovation*—defined as the extent to which a firm's strategic posture is directed toward the development of new products and services or entry in new markets (Jansen et al. 2006; Uzzi and Lancaster 2003)—task conflict plays a positive role because it stimulates original and divergent viewpoints (Van Dyne and Saavedra 1996). In contrast, relationship conflict harms innovation because the associated negative emotions distract attention from high-quality knowledge exchanges and decision making (Amason 1996; Jehn 1995; Jehn and Mannix 2001; Pelled et al. 1999). The theoretical elaboration of these contrasting roles typically focuses on identifying the antecedents of the two conflict types (e.g., Matsuo 2006; Peterson and Behfar 2003; Porter and Lilly 1996) or determining how factors such as conflict-handling mechanisms (Song et al. 2006), collaborative problem solving (De Dreu 2006), or trust (e.g., Langfred 2007; Rispens et al. 2007) may function

as mediating mechanisms between conflict and performance outcomes. But does the nature and strength of the conflict–innovation relationship vary across different intra-organizational settings? Despite recent empirical work that highlights contingent factors, such as the way in which exchange partners express their opinions about task-related issues (Lovelace et al. 2001) or organizational culture (Guerra et al. 2005), a clear need exists for more context-bound approaches (Jehn and Bendersky 2003; Rispens et al. 2007; Song et al. 2006; Van de Vliert et al. 1999).

We seek to deepen understanding of how contextual factors moderate—amplify or suppress—the relationship between conflict and innovation. Specifically, we discuss the nature and role of social capital—a key relational resource embedded in exchange relationships (Nahapiet and Ghoshal 1998)—to suggest that its underlying dimensions of social interaction and trust may provide more fine-grained insights into the mechanisms that relate conflict to innovation. In the context of the collaboration between functional departments, *social interaction* reflects the strength of the social relationships between exchange partners (Tsai and Ghoshal 1998); *trust* reflects the belief that a partner will act benevolently even when the possibility for opportunism exists (Zaheer et al. 1998). Although these two dimensions of social capital often go hand in hand (Tsai and Ghoshal 1998), they differ from one another: Trusted partners may still prefer to maintain formal interactions (Williamson 1993), and informal ties do not prevent exchange partners from acting in opportunistic ways (Granovetter 1985). Accordingly, we emphasize the distinct aspects of these two dimensions and argue that they interact with conflict in opposite ways: Whereas social interaction amplifies the beneficial effect of task conflict and the harmful effect of relationship conflict, trust suppresses these effects (Jehn and Bendersky

2003). We test these predictions using data about cross-functional interactions in 232 Canadian firms.

We aim to make two main contributions to marketing and innovation literature and thereby enrich understanding of the contingencies that underlie the conflict–innovation relationship. First, we move beyond the role of cross-functional integration for innovation (Kahn 1996; Song and Parry 1993) to provide a more detailed understanding of how the resources embedded in cross-functional relationships might affect the consequences of disagreements across functional departments. The joint consideration of cross-functional conflict and social capital offers novel ways to understand how firms can increase their level of innovation based on the quality of knowledge exchange that takes place among functional departments. Second, our arguments and findings add important nuances to the acclaimed universal beneficial role of social capital in intra-organizational functioning (Nahapiet and Ghoshal, 1998; Tsai and Ghoshal 1998), and the interactions between marketing and R&D in particular. We highlight how some challenges associated with cross-functional relationship building can interfere with the productive channeling of conflict into innovation.

CONCEPTUAL DEVELOPMENT

Nature of Cross-Functional Conflict

Extant research on innovation highlights the challenges associated with dealing with different viewpoints across functional departments. Griffin and Hauser (1996) point to the existence of different "thoughtworlds" as one of the reasons for divergent viewpoints between marketing and R&D managers and explain that these thoughtworlds may emerge from different educational training or professional backgrounds. In such a context, cross-functional cooperation can lead to *conflicts* in which managers from different functional areas disagree about

innovation-related decisions (De Luca and Atuahene-Gima 2007; Li and Calantone 1998). For example, cross-functional conflict might occur between marketing and R&D functions because their focus of attention differs (Lawrence and Lorsch 1967): Marketing managers focus on satisfying customer needs and providing protection against competitive threats, whereas R&D managers concentrate on issues related to advancing technology, technical feasibility, and product functionality (Song and Parry 1993). Moreover, the desire of the marketing function to maximize market share may run counter to the focus on technical sophistication and leadership set forth by R&D, and such disagreements can provide seeds of conflict between departments (Griffin and Hauser 1996; Ruekert and Walker 1987).

Conflict is multidimensional in nature, and a common distinction marks task conflict, (also labeled as functional, cognitive, or constructive conflict) versus relationship conflict (or dysfunctional, affective, or destructive conflict) (Amason 1996; Finkelstein and Mooney 2003). Task conflict is content-driven and arises because of differences in viewpoints about particular tasks. In contrast, relationship conflict is person-driven and arises when there are incompatibilities between different personalities, prompting negative feelings such as tension and frustration (Amason and Sapienza 1997; Jehn and Mannix 2001). Although early research suggests that conflict inhibits effective organizational functioning (e.g., Pondy 1967), more recent studies emphasize that the different conflict types relate differently to innovation (Amason 1996; Jehn 1995). Task conflict plays a beneficial role in innovation, in that disagreements about content-related issues are "an antidote to core rigidities because it forces the constant re-examination of whatever perspective dominates at the time in the organization" (Leonard-Barton 1995: p. 89). In contrast, relationship conflict suppresses innovation because the associated negative emotions have a dysfunctional effect on the quality of knowledge exchange and

decision making (Amason 1996; Jehn 1995; Jehn and Mannix 2001; Pelled et al. 1999). For example, in a study of 12 technology-based companies, Eisenhardt et al. (1997) explain how management teams can have healthy and productive "fights" by focusing on facts and issues rather than on personalities and interpersonal dislikes. Such fights lead to broader consideration of contrasting information domains, deeper understanding of the situations, and richer sets of possible opportunities. Without "good" fights, companies can become restricted to less innovative working environments, resulting in lower performance (Eisenhardt et al. 1997).

Beyond the general notion that different types of conflict play distinct roles in innovation, there is limited understanding of how these relationships may be moderated by the organizational context in which conflict takes place (Jehn and Bendersky 2003), leading to calls for context-bound approaches to conflict research (Jehn and Mannix 2001; Song et al. 2006; Van de Vliert et al. 1999). Accordingly, we approach our research from a contingency perspective and assess the conflict–innovation relationship in light of situational realities. In particular, because conflict influences innovation by shaping the flow of knowledge between exchange partners (Amason 1996; Amason and Sapienza 1997) and social capital plays an important role in the effectiveness of such knowledge flows (Nahapiet and Ghoshal 1998), we posit that the social capital inherent to the relationship between functional departments may influence the conflict–innovation relationship.

Nature of Cross-Functional Social Capital

The central proposition in social capital literature posits that the nature of the relationship between exchange partners constitutes, or leads to, resources that may benefit these partners (Nahapiet and Ghoshal 1998). Social capital thus represents a relational resource that resides in interactions between actors (Coleman 1988). Originally used as an aggregate concept to explain

why some communities are able to resolve collective problems cooperatively while others are not (Putnam 1993), social capital appears more recently in management and organization research as a significant factor for the internal functioning of organizations (Leana and Van Buren 1999; Nahapiet and Ghoshal 1998; Tsai 2000; Tsai and Ghoshal 1998). Specifically, social capital creates a context conducive to the creation of new ideas and knowledge (Nahapiet and Ghoshal 1998).

Consistent with the distinction between structural and relational embeddedness in sociology (Granovetter 1985), social capital scholars distinguish between structural and relational aspects of social capital (e.g., Nahapiet and Ghoshal 1998; Walker et al. 1997). The structural dimension reflects the overall pattern of connections between exchange partners, such as network configurations and the extent to which network ties are formal or informal. An important aspect of this dimension is the level of *social interaction*, which reflects the strength of the social relationships between exchange partners (Tsai and Ghoshal 1998). It captures the informal or affective nature of the exchanges between functional departments and thus aligns with the concept of cross-functional collaboration in prior literature on innovation and product development (Kahn 1996). The relational dimension refers to assets rooted within social relationships and reflects the inherent quality of individual ties that constitute the broader network of relationships (Coleman 1988), with a specific focus on the role of goodwill *trust*, which creates obligations and expectations about the extent and nature of cooperation (Uzzi 1997). In marketing literature, this view is represented in examinations of the nature of the exchanges that take place between organizations (e.g., Ganesan 1994; Moorman et al. 1992; Morgan and Hunt 1994), individual persons (Bstieler 2006; Dwyer et al. 1987; Moorman et al. 1992), or a hybrid of the two (Bart et al. 2005).

Drawing from this literature, we highlight two specific aspects of social capital to explain how the intra-organizational social context—as represented by the dimensions of social interaction and trust between functional departments—may influence how strongly the conflict between marketing and R&D functions promotes or impedes innovation. The glue that holds these two dimensions together is their ability to substitute for the more formal, restrictive governance of cross-functional exchange (Nahapiet and Ghoshal 1998; Yli-Renko et al. 2001). Our conceptual model, presented in Figure 1, outlines the moderating effects that the two aspects of social capital exert on the relationships between the two types of conflict (cross-functional task and relationship) and innovation. In the next section, we outline the rationale underlying these interactions, starting with the basic premise that task conflict promotes innovation, whereas relationship conflict impedes it.

[Insert Figure 1 about here]

HYPOTHESES

Moderating Effects of Cross-Functional Social Interaction

Cross-functional task conflict. We expect that the positive relationship between cross-functional task conflict and innovation grows particularly strong when strong social ties exist between functional departments. Strong ties facilitate joint problem-solving efforts and thus the ability of functional departments to learn from discussions about content-related issues (Larson 1992). Uzzi (1997) finds that a critical aspect of "embedded" ties is the improved ability to solve problems jointly, which enables decision makers to work through problems, get direct feedback, increase learning, search deeply for solutions, and reach integrative solutions. Similarly, Heide and Miner (1992) indicate that when exchange partners disagree, close social interactions enhance their mutual adjustment and efforts to engage in shared problem solving. Consequently,

when informal communication channels are in place, content-related disagreements stimulate functional managers to recognize their different interpretations as well as the need to incorporate these differences into the products that their organization develops, because the message associated with social interactions is the desire to find mutually beneficial solutions to whatever content-related problems might arise (De Dreu et al. 2000). Also, social ties can facilitate the development of a common identity among functional managers and thereby settle disagreements among different points of view more effectively (Uzzi 1997). These arguments suggest that to the extent that marketing and R&D functions engage in close social interactions, the organization should exhibit a greater ability to harness different opinions into initiatives for new product development or new market entry, leading to our first hypothesis:

> *H_1:* The positive relationship between cross-functional task conflict and innovation is moderated by the level of cross-functional social interaction, such that this positive relationship is stronger (i.e., steeper) for higher levels of cross-functional social interaction.

Cross-functional relationship conflict. Cross-functional social interaction can amplify not only the advantages of task conflict but also the downsides of relationship conflict. Prior research points out that relationship conflict prompts negative feelings, such as anxiety, resentment, or frustration (Jehn 1995). To the extent that functional managers have close interactions, the negative feelings associated with relationship conflict can be reinforced within the organization. Specifically, when functional managers exhibit personal animosity toward colleagues in other departments during conflict situations, such negative emotions can be triggered more easily when interactions are more intensive (Rispens et al. 2007). This argument is in line with prior research attesting to the danger of close interactions, which might lock parties into a negative conflict spiral (De Dreu and Van Vianen 2001). Furthermore, relationship conflict is difficult to settle to the mutual satisfaction of the involved parties when it requires addressing issues

fundamental to their personal identity (Druckman 1994). Consequently, though social interaction might help clarify disputes between functional managers and alter their understanding of the conflict situation, such interactions pose the danger of escalating the emotional underpinnings of the conflict and hindering effective collaboration within the organization because more connected exchange partners tend to have more intense perceptions of their conflict (Rispens et al. 2007). Therefore, rather than resolving relationship conflict, social interaction can make it loom bigger and seem intractable (Harinck et al. 2000). To the extent that marketing and R&D functions connect through strong social ties then, any negative relationship energy between them may further decrease the quality of cross-functional knowledge exchange and impede innovation.

> *H_2:* The negative relationship between cross-functional relationship conflict and innovation is moderated by the level of cross-functional social interaction, such that this negative relationship is stronger (steeper) for higher levels of cross-functional social interaction.

Moderating Effects of Cross-Functional Trust

Cross-functional task conflict. The benefits of cross-functional task conflict for innovation can be suppressed when marketing and R&D managers maintain high levels of trust. Although trust can facilitate knowledge flow directly (Yli-Renko et al. 2001) or reduce conflict (Porter and Lilley 1996), its indirect effect on innovation is more complex. Langfred (2004) finds that trust limits exchange partners' critical stances toward the other's different viewpoints and behavior: Trust reduces the extent to which exchange partners monitor each other's behavior and thus their propensity to question or intervene in others' daily tasks and work. Consequently, high levels of trust can suppress the very behaviors that make task conflict beneficial for innovation. Such a negative interaction between task conflict and trust is consistent with the association of trust with "groupthink" or "too much" social cohesion (Janis 1982; Sethi et al. 2001).

Collaborative settings characterized by high levels of trust can exert a powerful influence to conform (Baron et al. 1996), so such settings are susceptible to decision biases due to the suppression of conflicting opinions and constructive discussion (Janis 1982). At high levels of trust, the inclusion of conflicting opinions in decision making could be perceived as a violation of the trust itself (Lewicki and Bunker 1996). Thus, the need to be perceived as a trustworthy "team player" and the associated desire to conform and not hurt the feelings of trusted colleagues can negatively impact the extent to which organizations productively exploit conflict about content-related issues in their decision-making processes (Ayers et al. 1997). In short, at higher levels of trust, the reluctance to energize cross-functional exchanges, subject to task conflict, may mitigate their potential contribution to innovation.

> *H_3:* The positive relationship between cross-functional task conflict and innovation is moderated by the level of cross-functional trust, such that this positive relationship is weaker (i.e., less steep) for higher levels of cross-functional trust.

Cross-functional relationship conflict. Finally, trust can suppress the harmful effect of relationship conflict on innovation. The uncertainty and uneasiness resulting from negative emotions in personal conflicts among functional managers should decrease when the conflicting parties believe that others will not behave opportunistically in conflict situations. In this respect, extant research emphasizes benevolence as an important aspect of trust that reflects partners' willingness to show consideration for and sensitivity to the needs and interests of others, as well as refrain from exploiting the other party's feelings for the benefit of their own interests (Mayer et al. 1995). Similarly, because trust facilitates affective attachments and feelings of connection (Yli-Renko et al. 2001), it is less likely that trusting functional managers will compromise the quality of their knowledge exchange due to personal animosity. This argument also mirrors the notion that trust implies a "leap of faith" (Wicks et al. 1999) that acts as a moral control

mechanism to minimize the potential negative effects stemming from tensions and other negative emotions (Ghoshal and Moran 1996; Granovetter 1985). In contrast, in collaborative settings characterized by low levels of trust, functional managers are more likely to interpret situations of personal conflict as intentionally harmful and vicious and therefore might refrain from productive knowledge exchange. Prior research attests that perceptions of distrust lead to a negative spiral in which distrust is reciprocated and further accentuates the negative feelings associated with personal quarrels (Creed and Miles 1996). These arguments suggest that to the extent that marketing and R&D managers trust each other, the negative consequences of relationship conflict for innovation can be suppressed.

> *H_4:* The negative relationship between cross-functional relationship conflict and innovation is moderated by the level of cross-functional trust, such that this negative relationship is weaker (i.e., less steep) for higher levels of cross-functional trust.

RESEARCH METHODS

Sample and Data Collection

To ensure the wide applicability of our findings, we test our hypotheses with a sample of firms active in a variety of industrial sectors. We obtained, from a private market research company, a list of 1,500 randomly selected Canadian firms, representative of the country's provinces and industrial sectors. Similar to approaches used in prior research (e.g., Simons and Peterson 2000; Song et al. 2006), we used a single-respondent design and obtained contact information about managers active in either a marketing- or R&D-related function. We then sent a survey instrument to one randomly selected functional manager per firm. To pretest the survey and ensure that our questions were clear and understandable, we undertook informal interviews with six randomly chosen functional managers (three marketing, three R&D) who were not included in the initial sample and with whom we discussed the survey instrument as well as the

challenges associated with cross-functional cooperation in their respective firms. Their input helped us improve the readability and relevance of our survey instrument.

Our data collection relies on Dillman's (1978) total design method. We prepared a mailing packet containing (1) a cover letter addressed personally to the functional managers of the sampled firms, (2) a questionnaire, and (3) a postage-paid return envelope. Two weeks after the initial electronic mailing, we conducted "thank you" calls to those who had responded and reminder calls to those who had not. Four weeks after the initial mailing, we sent replacement questionnaires to nonrespondents. Some initially selected firms were unfit for the final sample because they were not active any more, had moved and their new address could not be identified, or no longer employed the selected respondents. We ended up with 950 potential respondents and received 232 completed surveys, for a response rate of 24%, which is approximately consistent with other studies pertaining to innovation and social exchange (Aiken and Bousch 2006; Schatzel and Calantone 2005). The responding firms operate in a wide variety of sectors, including manufacturing (standard industrial classification [SIC] 20–39), nonfinancial services (SIC 70–89), mining (SIC 10–14), construction (SIC 15–17), transportation (SIC 40–49), wholesale (SIC 50–51), retail (SIC 52–59), and finance (SIC 60–67). No substantial differences mark respondents and non-respondents or early and late respondents (Armstrong and Overton 1977).

Following prior research (Yli-Renko et al. 2001), we tested the validity of the study's key constructs by administering a follow-up survey six-months after the initial one. In the follow-up survey, we used a shortened format of the original questionnaire; for each construct, we chose one proxy item from the original survey that we believed best represented the overall construct.

We received 78 responses to the follow-up survey and found that all validation items had positive correlations with the original measures.

Measures of Constructs

In Table 1, we list the measures used in our analysis, detailing their individual items, overall reliability estimates (Cronbach's alpha, composite reliability), average variance extracted (AVE), and correlations with their single-item counterparts from the follow-up survey. In line with our research focus, our measures assess respondents' perceptions about the relationship between the marketing and R&D functions in their organizations.

[Insert Table 1 about here]

Innovation. Following prior research (Jansen et al. 2006; Uzzi and Lancaster 2003), we measure innovation using seven items that reflect the extent to which the firm develops new products and services or pursues innovations for customers or markets (e.g., experimenting with new products or services in the local market, using new distribution channels). As a confirmation of this measure's predictive validity, we find that it correlates positively with income growth over the last year ($r = .256$, $p < .05$), according to data we gather from a secondary source about a subset ($n = 70$) of the firms in our sample.

Cross-functional task conflict. We measure cross-functional task conflict with a four-item scale based on prior literature on group and interdepartmental conflict (Dyer and Song 1998; Jehn and Mannix 2001). For example, respondents indicated the extent to which different functions have conflicting opinions about projects or disagreements about task-related issues.

Cross-functional relationship conflict. Following Dyer and Song (1998) and Jehn and Mannix (2001), we measure relationship conflict with a four-item scale that assesses whether

interactions between different functions are characterized by person-related issues (e.g., people in different functions get angry with one another or do not get along well).

Cross-functional social interaction. Following prior studies (Tsai and Ghoshal 1998; Yli-Renko et al. 2001), we measure social interaction with four items that reflect the strength of social relationships between functional departments. For example, we asked the respondents to rate the extent to which people in different functions know one another on a personal level or maintain close social relationships.

Cross-functional trust. Drawing from literature on interpersonal trust (Rempel et al. 1985) and interfirm trust (Morgan and Hunt 1994), we measure the overall level of trust between marketing and R&D managers using a five-item scale. Respondents indicated, for example, whether people from other functions keep their promises and avoid taking advantage of them, even if the opportunity arises.

Control variables. We include several control variables to avoid model misspecification and take into account possible alternative explanations for variations in innovation. First, we control for *firm size*, which we measure as a log transformation of the number of full-time employees. Second, we control for *firm age*, measured as the number of years the firm has been in business. Third, to account for the possible variation across industries in terms of their maturity and associated innovation propensity, we control for the *industry* of the firm. Fourth, we control for whether the respondent represents the marketing or R&D function. To determine whether the results might be influenced by the functional background of the respondents, as a post-hoc test, we also run two separate sets of regressions for the marketing- and R&D-related functions. The results are consistent with the reported regression results.

Assessing the Reliability and Validity of Measures

In line with Anderson and Gerbing (1988), we estimate a five-factor measurement model using AMOS 6.0. Confirmatory factor analysis (CFA) reveals factor loadings greater than .40, normalized residuals less than 2.58, and modification indices less than 3.84 (Anderson and Gerbing 1988). These results suggest that no deletions of scale items are needed to improve model fit. We also note that the measurement model fits the data well: $\chi^2_{(242)} = 466.71$, goodness-of-fit index (GFI) = .90, Tucker-Lewis index (TLI) = .94, confirmatory fit index (CFI) = .95, and root mean squared error of approximation (RMSEA) = .06.

We affirm the convergent validity of our scales with the significant factor loadings in the measurement model ($t > 2.0$; Gerbing and Anderson 1988) and the magnitude of our AVE estimates (equal to or greater than .50, Bagozzi and Yi 1988). Several assessment criteria also support the discriminant validity of our constructs. None of the confidence intervals for the correlations between constructs includes 1.0 ($p < .05$) (Anderson and Gerbing 1988), and the AVE estimates of the constructs are greater than the squared correlations between the corresponding pairs of constructs (Fornell and Larcker 1981). In addition, we find significant differences between the unconstrained model and a constrained model (Anderson and Gerbing 1988) for all 10 pairs of constructs, such as between task and relationship conflict ($\Delta\chi^2_{(1)} > 40.14$, $p < .001$) and between social interaction and trust ($\Delta\chi^2_{(1)} > 56.58$, $p < .001$).

We conduct several diagnostic analyses to rule out the possibility of common method bias in our results. First, we conduct a CFA for a single-factor model and find poor fit with the data ($\chi^2_{(252)} = 1802.38$, GFI = .52, TLI = .46, CFI = .51, RMSEA = .16), significantly worse ($\Delta\chi^2_{(10)} = 1335.67$, $p < .001$) than the fit of the five-factor model. Second, we compare a post-hoc "hypothesized" model that includes the four interactions terms—as we discuss in the "Supplementary Analysis" section—with a model that contains an added common method factor

(Podsakoff et al. 2003; Song et al., 2006). This analysis reveals very small differences in the fit indices between the hypothesized model ($\chi^2_{(112)}$ = 198.96; GFI = .92, TLI = .92, CFI = .95, RMSEA = .06) and the model that includes the common method factor ($\chi^2_{(111)}$ = 198.17; GFI = .92, TLI = .92, CFI = .95, RMSEA = .06); moreover, the chi-square difference between the two models is not significant ($\Delta\chi^2_{(1)}$ = .79; ns). In addition, we observe only small changes in the size and significance of the paths across the two models. These results, together with arguments that common method bias is less prevalent in studies using highly educated respondents and multi-item scales (Bergkvist and Rossiter 2007) and for moderating effects rather than main effects (Brockner et al. 1997; see also Simons and Peterson 2000), alleviate possible concerns related to the use of a common respondent in our study.

ANALYSIS AND RESULTS

We provide the correlations and descriptive statistics for the study variables in Table 2. We use moderated hierarchical regression analysis to test our hypotheses, mean-centering our interacting variables to minimize multicollinearity (Aiken and West 1991). All variance inflation factor values are less than three, suggesting that multicollinearity is not an issue.

In Table 3, we provide the regression results. Model 1 contains only the control variables; Model 2 adds the direct effects of task conflict, relationship conflict, social interaction, and trust; and Model 3 adds the two-way interaction terms. Both Models 2 and 3 reveal a significant improvement in model fit (ΔR^2 = .11 and .04, respectively, $p < .05$), attesting to the importance of the variables representing our hypotheses. In Model 2, consistent with the basic premise of our theoretical discussion, task and relationship conflict have, respectively, positive and negative effects on organizational innovation. In addition, we find a positive, direct effect of social interaction on innovation but no significant relationship between trust and innovation.

The results in Model 3 suggest a positive interaction effect between social interaction and task conflict ($\beta = .27$, $p < .05$). Figure 2 plots this interaction, indicating the effect of task conflict on innovation at high and low levels of social interaction (Aiken and West 1991). This relationship is stronger when social interaction is high than when it is low, in support of Hypothesis 1.

In Hypothesis 2, we predict a negative interaction between relationship conflict and social interaction in affecting innovation. The interaction term is negative and significant ($\beta = -.26$, $p < .05$), and the corresponding interaction plot in Figure 3 indicates that the negative relationship between relationship conflict and innovation becomes amplified when there are strong social ties between functional departments. This result supports Hypothesis 2.

The results for the moderating effect of cross-functional trust are mixed. Its interaction effect with task conflict is negative and significant ($\beta = -.32$, $p < .01$), whereas its interaction effect with relationship conflict is positive but not significant (thus, we find no support for Hypothesis 4). The plot of the interaction between trust and task conflict, as shown in Figure 4, indicates no relationship between task conflict and innovation at high levels of cross-functional trust and a positive relationship at low levels of trust. This interaction pattern suggests a suppressing effect of trust on the task conflict–innovation relationship, in support of Hypothesis 3.

[Insert Table 3 and Figures 2-4 about here]

To shed further light on the presence and significance of a relationship between the different conflict types and innovation at varying levels of social interaction and trust, we conduct simple slope analyses for each plot (Aiken and West 1991). We find that (1) there is a positive relationship ($t = 3.54$; $p < .001$) between task conflict and innovation at high levels of

social interaction but no such relationship (t = .27; *ns*) at low levels of social interaction, (2) there is a negative relationship (t = -3.77; $p < .001$) between relationship conflict and innovation at high levels of social interaction but no such relationship (t = -.64; *ns*) at low levels of social interaction, and (3) there is a positive relationship between task conflict and innovation at low levels of trust (t = 3.72; p < .001) but no such relationship (t =- .06; ns) at high levels of trust. Overall, these results corroborate our support for Hypotheses 1, 2, and 3.

Finally, to test the robustness of our results, we run a supplementary analysis in which we use the innovation measure from the follow-up survey as the dependent variable. Because of the limited statistical power (n = 78), which is particularly needed for interaction effects (Greene 2004), some of the significant moderating effects become weaker or disappear; however, the signs of the moderating effects are similar to those based on the single-round data, which corroborates the validity of our results

Supplementary Analysis

To validate our results and rule out alternative model specifications, we conduct several additional analyses. First, considering prior evidence of direct relationships between conflict and trust (Langfred 2007; Porter and Lilly 1996; Rispens et al. 2007), task conflict and relationship conflict (Peterson and Behfar 2003; Simons and Peterson 2000), and social interaction and trust (Ferrin et al. 2006; Tsai and Ghoshal 1998), we estimate a "hypothesized" structural equation model (SEM) with specified covariances among all pairs of the four interacting variables, thereby accounting for their mutual dependence. This model offers an appropriate fit ($\chi^2_{(112)}$ = 198.96, GFI = .92, TLI = .92, CFI = .95, RMSEA = .06), and the sign, magnitude, and significance of the moderating effects are consistent with those from the regression analysis, as illustrated in Model 4 in Table 3.

Second, to test for the possibility that the four focal constructs constitute sub-dimensions of one superordinate construct, we compare the fit of a main effects model ($\chi^2_{(314)} = 636.13$, GFI = .83, TLI = .90, CFI = .90, RMSEA = .06) with the fit of a model in which a second-order factor mediates the relationship between the four constructs and innovation ($\chi^2_{(319)} = 736.83$, GFI = .79, TLI = .84, CFI = .85, RMSEA = .08). The former model exhibits a significantly better fit, ($\Delta\chi^2_{(5)} = 100.70$; $p < .01$), suggesting that the four constructs are conceptually distinct.

Third, we run two alternative SEM models: one with social interaction and trust as mediating variables (Model A) and another with task conflict and relationship conflict as mediating variables (Model B). The fit indices of these two mediating models (Model A: $\chi^2_{(114)} = 210.11$, GFI = .91, TLI = .91, CFI = .94, RMSEA = .06; Model B: $\chi^2_{(114)} = 207.50$, GFI = .92, TLI = .92, CFI = .94, RMSEA = .06) are similar to those of the hypothesized moderating model, which shows that our suggested contingency approach offers an alternative, equally potent perspective.

DISCUSSION

A firm's ability to exhibit high levels of innovation depends on productive exchanges between its marketing and R&D departments (Li and Calantone 1998). In the process of innovation, conflict inevitably arises in such cross-functional interactions because people with different personal interests and professional backgrounds come together in their pursuit of accomplishing the organization's innovative goals (Griffin and Hauser 1996). This study captures the interplay between conflict and relationship building by examining the role that cross-functional social capital (i.e., social interaction and trust) plays in channeling conflict into innovative output. We expand the understanding of the social contingencies underlying the conflict–innovation relationship (De Dreu and Weingart 2003; Jehn and Bendersky 2003), and

by highlighting the opposing roles of social interaction and trust in their interaction with conflict, we add important nuances to our understanding of the role of social capital for intra-organizational functioning.

First, as expected, the beneficial aspects of task conflict are more pronounced when stronger social ties exist between functional departments (Figure 2). That is, for high levels of cross-functional interpersonal interactions, marketing and R&D functions are more effective in coping with and leveraging disagreements about content-related issues. Social interactions lower the cooperative barriers between departments and thus facilitate joint problem-solving across functional departments (Atuahene-Gima and Murray 2007; Uzzi 1997), which in turns enables the productive resolution of task conflict into innovative solutions. In contrast, at low levels of social interaction, task conflict does not appear to increase innovation.

Second, cross-functional social interaction has a negative moderating effect on the link between relationship conflict and innovation (Figure 3). Although prior research points to the beneficial role of social interaction for stimulating high-quality knowledge exchange (Nahapiet and Ghoshal 1998; Yli-Renko et al. 2001), it might have overlooked the importance of the emotional context in which these interactions take place (Rispens et al. 2007). Our study shows that social interaction is harmful rather than beneficial in collaborative contexts characterized by high levels of personal animosity and personality clashes. Specifically, whereas at low levels of social interaction, no relationship exists between relationship conflict and innovation, the presence of strong ties between functional departments appears to amplify the negative feelings associated with relationship conflict and thus indicates a strong negative relationship between relationship conflict and innovation. As such, our study is perhaps the first to show that *if* functional managers are prone to personal disagreements with colleagues from other

departments, the negative emotions associated with such conflicts become amplified and more easily invoked by close social interactions and, in turn, impede the organization's innovation processes. Our study thus clarifies an important boundary condition for the perceived beneficial effect of strong relationships for organizational innovation (De Luca and Atuahene-Gima 2007; Nahapiet and Ghoshal 1998): Social interactions can be destructive to the extent that they activate negative emotions or personal tensions that exist between marketing and R&D functional managers. We further speculate that, outside the cross-functional context, this result may be even more pronounced within new product development teams whose members are physically proximate to one another and intensively work together on a particular project for a given period of time (Lovelace et al., 2001).

Third, our results confirm a negative interaction effect between cross-functional task conflict and trust. The positive relationship between task conflict and innovation occurs only with low trust; with high trust, a positive relationship is absent (Figure 4). This finding provides an important nuance to the acclaimed positive effect of trust for generating positive outcomes in exchange relationships both between and within organizations (Anderson and Narus 1990; Bstieler 2006; Uzzi 1997), in that trust *prevents*, rather than encourages, the benefits of task-related disagreements in fostering innovation. Extant research accords strong benefits to the presence of trust in exchange relationships, in that a belief in others' goodwill frees up resources for productive knowledge exchange (Bstieler 2006; Zaheer et al. 1998) and decreases the likelihood that task conflict turns into relationship conflict (Peterson and Behfar 2003; Simons and Peterson 2000). Yet our arguments and results point to the harmful effect of trust in preventing the full exploitation of conflicting viewpoints about task-related issues as a means to realize innovation (Sethi et al. 2001). As such, this study extends prior arguments that high levels

of trust might limit productive discussions because less learning takes place (Yli-Renko et al. 2001) and that the reduced level of monitoring associated with trust can be destructive rather than constructive (Langfred 2004). Furthermore, high levels of trust may diminish the productive exchange of critical viewpoints, to avoid breaching trust that has developed; that is, a propensity to attempt not to hurt the feelings of trusted exchange parties might restrain functional managers from freely expressing their conflicting opinions (Ayers et al. 1997).

Fourth, we do not find support for our proposition that cross-functional trust suppresses the link between relationship conflict and innovation. This lack of finding may be due to the respondents' "automatic" association of relationship conflict with low levels of trust ($r = -.61$, Table 2). Future research should seek to disentangle the interplay between relationship conflict and trust further in innovative settings.

In summary, these findings extend current marketing literature in several ways. First, we provide a more elaborate understanding of the relationship between cross-functional conflict and innovation by outlining important contingency factors that underlie the relationship and thus provide empirical evidence of conceptual arguments that the performance outcomes of conflict depend on the situational context of the conflict (De Dreu and Weingart 2003; Jehn and Bendersky 2003). Although current literature distinguishes between disagreements about content- versus person-related issues, it often focuses on the antecedents of these conflict types (e.g., Matsuo 2006; Porter and Lilly 1996) or how different processes may function as *mediating* mechanisms between conflict and performance (De Dreu 2006; Langfred 2007; Rispens et al. 2007; Song et al. 2006). In doing so, it ignores how the nature of the conflict–innovation relationship might fare differently across the different social contexts in which conflict takes place at a given point in time (Jehn and Bendersky 2003). Our study addresses this gap. Second,

the focus on cross-functional social capital aligns with marketing literature that considers the importance of cross-functional relationship building for generating innovation (e.g., De Luca and Atuahene-Gima 2007; Griffin and Hauser 1996; Kahn 1996; Li and Calantone 1998; Luo et al. 2006). Yet virtually no attention has been devoted to how cross-functional relationship building interferes with the conflict–innovation relationship. Our results with respect to the opposing moderating effects of social interaction and trust provides added nuance to the perceived beneficial effect of social capital (Tsai and Ghoshal 1998). Prior evidence of the benefits of social capital might not have provided a complete picture of certain costs associated with social capital or ignored the possibility that these costs might outweigh the benefits in the interplay with conflict in cross-functional settings.

Managerial Implications

This study's results have several important managerial implications. First, though not the primary focus of this study, the direct effects of task conflict and relationship conflict on innovation (positive and negative, respectively) support the view shared by marketing and product innovation scholars (e.g., Dyer and Song 1998; Eisenhardt, Kahwajy, and Bourgeois 1997; Ruekert and Walker 1987) that healthy cross-functional collaboration implies neither absolute harmony nor battles about personal issues but rather a "friendly rivalry" among people from different departments that helps create and nurture an environment that lends itself to innovation. A notable example of how strong emotional disagreements may arise from initial disagreement about content-related issues is Delta Airlines in the mid-1990s, when discussions about how the company could be saved from a mounting sea of red ink turned into strong intra-organizational, person-related battles that ultimately led to the firing of the company's CEO (Baron and Shane 2005). An important challenge for organizations is to develop strategies that

prevent task conflict from turning into relationship conflict, such as by uncovering the true content-related causes that underlie task disagreements, avoiding tactics that reflect a win–lose approach, and broadening the scope of the issues considered during task-related discussions (Amason, 1996; Peterson and Behfar, 2003; Simons and Peterson, 2000; Song et al., 2006).

Second, whereas cross-functional social interaction increases the benefits of task conflict, these benefits may backfire if cross-functional disagreements entail negative feelings such as anxiety, frustration, or even personality battles (Jehn et al. 1999). Companies seeking to stimulate cross-functional social interaction by having marketing and R&D employees work in close proximity or rotate through different functions (Griffin and Hauser 1997) would be well advised to consider the possible drawbacks associated with such social interactions. Accordingly, the "close-quarter" workplace design developed to promote social interactions between employees of different functional areas should be used with great caution in the presence of interpersonal dislike. Such workplace arrangements appear at many organizations, such as the Danish hearing-aid company Oticon, which decided to widen its staircases to encourage multifunctional interchanges after learning that most social interactions at its workplaces occurred on stairwells (Kelley and Littman 2001). Our warning, however, remains: If personal misunderstandings and arguments across departments remain unresolved, social interactions can hamper the organization's potential to exhibit high levels of innovation. Accordingly, top managers should be attuned to the personal animosities that may exist across departments and promote social interactions that circumvent any suppressing effect on high-quality knowledge exchange.

Third, the negative interaction between cross-functional task conflict and trust indicates that blind confidence in others' goodwill may overpower the effective exploitation of alternative

ideas and viewpoints and thus hamper innovation (Ayers et al. 1997). At the extreme, high levels of trust could turn functional members into "rubber stampers" who blindly endorse and approve solutions provided by trusted peers, without engaging in careful thought about which solutions are most instrumental for developing new products or entering new markets. Hence, organizations must remain alert for and prevent symptoms of groupthink in cross-functional exchanges, as illustrated by poor information search, incomplete reviews of alternatives, or selective perceptions of information and alternatives (Janis 1982). Instead, they should promote the open, critical, and constructive consideration of wide ranges of opinions to avoid situations in which potential problems or breakthrough solutions get swept under the rug to protect the trust and goodwill of colleagues. Top management should encourage a culture and communication channels through which functional managers can voice and receive dissenting opinions and consider how these opinions may be highlighted, integrated, and ultimately applied to innovative ends (Horibe 2001). Perhaps what is needed is the "idea-exchanging meeting style" propagated by Alfred P. Sloan, which postpones final decisions, even after all parties come to a complete agreement, to "give [everyone] time to develop disagreements and perhaps gain some understanding of what the decision is all about" (Rabe 2006: p. 39).

Fourth, because the two dimensions of social capital are closely aligned (Ferrin et al. 2006; Tsai and Ghoshal 1998), this study indicates that organizations that seek high levels of innovation should consider and resolve the challenges of exploiting the benefits of task conflict while minimizing the disadvantages of relationship conflict. To this end, implementing appropriate conflict-handling mechanisms, such as focusing on collaboration that reduces the escalation of negative emotions while promoting the consideration of others' viewpoints (Song et al. 2006), may provide substantial benefits to the organization.

Limitations and Future Research Directions

We acknowledge that our study contains some limitations, which in turn offer opportunities for further research. First, for parsimony, we focus on one set of potential moderators of cross-functional conflict and innovation. Although our focus on cross-functional social capital is guided by the observation that both social capital and conflict shape the quality of knowledge flow between organizational functions (Amason 1996; Amason and Sapienza 1997; Nahapiet and Ghoshal 1998), additional research might consider a broader set of contingency variables and explore, for example, how the relationship between cross-functional conflict and innovation could be colored by the level of cross-functional political activity (Eisenhardt and Bourgeois 1988) or the extent to which different functions compete for the same resources (Luo et al. 2006).

Second, the cross-sectional nature of our data demands caution when drawing causal inferences, because the relationships may be susceptible to reverse causality. For example, the relationship between conflict and innovation might be reversed, such that high innovation levels may decrease conflict if such innovation were intended and thus represent positive performance feedback (Peterson and Behfar 2003). Furthermore, additional studies could measure conflict and social capital at different points in time to examine whether or how their interdependence (e.g., Langfred 2007; Porter and Lilly 1996; Rispens et al. 2007) and associated endogeneity alter the insights offered by this study.

Third, similar to Song et al. (2006), we use a single-respondent design, instead of establishing two respondents per firm, to alleviate concerns by respondents about the confidentiality of their responses. Yet different functional areas may have different perceptions about the conflict that arises in their collaboration (Jehn and Chatman, 2000), and therefore, our

reliance on data from one party per firm might not paint a complete picture of the nature of the relationship between the firms' functional departments.

Fourth, the roles of cross-functional conflict and social capital for firm innovation might be weaved into more complex configurations that also include the type of innovation (e.g., incremental versus radical) or different contextual settings. Looking beyond innovation, research could examine whether the mechanisms we suggest apply to other strategic postures. Similarly, further research could examine whether the study's results also apply to settings different from the one used in this study. We have no a priori reason to believe that the interaction patterns observed herein would be different for collaboration within functional departments or specific teams, but the magnitude of the observed effects might be more pronounced in settings in which group members interact with one another on an intensive, day-to-day basis, such as in new product development teams (Lovelace et al., 2001).

Finally, we focus on firms' level of innovation rather than innovation performance as an outcome of cross-functional processes. Although firms' propensity to develop new products or enter new markets serves as a possible driver of firm performance (Teece et al. 1997), we have attempted to gain a better understanding of the mechanisms that underlie this propensity and thus concentrate on the origins of firms' competitive advantage. This focus on innovation is also consistent with other studied outcomes of conflict, such as creativity (Amason 1996; Jehn 1995), and enables us to identify the specific mechanisms through which contingency factors operate (Jehn and Benkersky 2003). Yet future research should consider how the interplay between the cross-functional processes studied herein and an organization's innovation propensity ultimately affects its actual performance.

REFERENCES

Aiken, K. Damon and David M. Boush. 2006. “Trustmarks, Objective-Source Ratings, and Implied Investments in Advertising: Investigating Online Trust and the Context Specific Nature of Internet Signals.” Journal of the Academy of Marketing Science 34: 308-323.

Aiken, Leona S. and Stephen G. West. 1991. Multiple Regression: Testing and Interpreting Interactions. Newbury Park, CA: Sage.

Amason, Allen C. 1996. “Distinguishing the Effect of Functional and Dysfunctional Conflict on Strategic Decision Making: Resolving a Paradox for Top Management Teams.” Academy of Management Journal 39 (February): 123-148.

---- and Harry J. Sapienza. 1997. “The Effects of Top Management Team Size and Interaction Norms on Cognitive and Affective Conflict.” Journal of Management 23 (August): 495-516.

Anderson, James C. and David W. Gerbing. 1988. “Structural Equation Modeling in Practice: A Review and Recommended Two-Step Approach.” Psychological Bulletin 103 (May): 411-423.

Anderson, James C. and J. A. Narus. 1990. “A Model of Distributor Firm and Manufacturing Firm Working Relationships.” Journal of Marketing 54 (1): 42-58.

Armstrong, J. Scott and Terry S. Overton. 1977. “Estimating Nonresponse Bias in Mail Surveys.” Journal of Marketing Research 16 (August): 396-402.

Atuahene-Gima, Kwaku and Janet Y. Murray. 2007. “Exploratory and Exploitative Learning in New Product Development: A Social Capital Perspective on New Technology Ventures in China.” Journal of International Marketing 15 (2): 1–29.

Ayers, Doug, Robert Dahlstrom, and Steven J. Skinner. 1997. “An Exploratory Investigation of Organizational Antecedents to New Product Success.” Journal of Marketing Research 34 (February): 107-116.

Bagozzi, Richard P. and Youjae Yi. 1988. "On the Evaluation of Structural Equation Models." Journal of the Academy of Marketing Science 16: 74-94.

Baron, Robert S., Vandello, Joseph A., and Bethany Brunsman. 1996. “The Forgotten Variable in Conformity Research: Impact of Task Importance on Social Influence.” Journal of Personality and Social Psychology 71: 915–92 7.

Baron, Robert S., and Scott Shane. 2005. Entrepreneurship: A Process Prospective. Thomson, South-Western, Ohio.

Bart, Yakov Y., Venkatesh Shankar, Fareena Sultan, and Glen L. Urban. 2005. “Are the Drivers and Role of Online Trust the Same for All Web Sites and Consumers? A Large-Scale Exploratory Empirical Study.” Journal of Marketing 69, 133-152.

Bergkvist, Lars, and John R. Rossiter. 2007. “The Predictive Validity of Multiple-Item Versus Single-Item Measures of the Same Constructs.” Journal of Marketing Research 44: 175-184.

Bstieler, Ludwig. 2006. “Trust Formation in Collaborative New Product Development.” Journal of Product Innovation Management 23: 56-72.

Coleman, James S. 1988. “Social Capital in the Creation of Human Capital.” American Journal of Sociology 94 (July): 95-120.

Creed, W. E., and Miles, R. E. 1996. “Trust in Organizations: A Conceptual Framework Linking Organizational Forms, Managerial Philosophies, and the Opportunity Costs of Control.” In Trust in Organizations: Frontiers of Theory and Research, R. M Kramer and T. R. Tyler (Eds.),. Thousand Oaks, CA: Sage, 16-39.

De Dreu, Carsten K.W. 2006. “When Too Little or Too Much Hurts: Evidence for a Curvilinear Relationship between Conflict and Innovation in Teams.” Journal of Management 32: 83-108.

----, and Van Vianen, A. E. M. 2001. "Responses to Relationship Conflict and Team Effectiveness." Journal of Organizational Behavior 22: 309-328.
---- and Weingart, L. R. 2003. "Task Versus Relationship Conflict, Team Effectiveness, and Team Member Satisfaction: A Meta-Analysis." Journal of Applied Psychology 88: 741-749.
----, Weingart, L. R., and Kwon, S. 2000. "Influence of Social Motives in Integrative Negotiation: A Meta-Analytic Review and Test of Two Theories." Journal of Personality and Social Psychology 78: 889-905.
De Luca, Luigi M. and Kwaku Atuahene-Gima. 2007. "Market Knowledge Dimensions and Cross-Functional Collaboration: Examining the Different Routes to Product Innovation Performance." Journal of Marketing 71 (January): 95-112.
Dillman, Don A. 1978. Mail and Telephone Surveys: The Total Design Method. New York: John Wiley & Sons.
Druckman D. 1994. "Determinants of Compromising Behavior in Negotiation." Journal of Conflict Resolution 38: 507-556.
Dwyer, F. Robert, Paul H. Schurr, and Sejo Oh. 1987. "Developing Buyer-Seller Relationships." Journal of Marketing 51: 11–27.
Dyer, Barbara and X. Michael Song. 1998. "Innovation Strategy and Sanctioned Conflict: A New Edge in Innovation?" Journal of Product Innovation Management 15 (November): 505-519.
Eisenhardt, K.M. and L.J. Bourgeois III. 1988. "Politics of Strategic Decision Making in High-Velocity Environments." Academy of Management Journal 31 (4): 737-770.
----, Kahwajy, Jean L., and Bourgeois III, L. J. 1997. "Conflict and Strategic Choice: How top Management Teams Disagree." California Management Review 39(2): 42-62.
Ferrin, Donald L., Kurt T. Dirks, and Pri P. Shah. 2006. "Direct and Indirect Effects of Third-Party Relationships on Interpersonal Trust." Journal of Applied Psychology 91(4): 870-883.
Finkelstein, Sydney and Ann C. Mooney. 2003. "Not the Usual Suspects: How to Use Board Process to Make Boards Better." Academy of Management Executive 17(2): 101-113.
Fornell, Claes and David F. Larcker. 1981. "Evaluating Structural Equation Models with Unobservable Variables and Measurement Error." Journal of Marketing Research 18 (February): 39-50.
Ganesan, S. 1994. "Determinants of Long-Term Orientation in Buyer–Seller Relationships." Journal of Marketing 58 (2): 1–19.
Gerbing, David W. and James C. Anderson. 1988. "An Updated Paradigm for Scale Development Incorporating Unidimensionality and its Assessment." Journal of Marketing Research 25 (2): 186–192.
Ghoshal, Sumantra and Peter Moran. 1996. "Bad for Practice: A Critique of the Transaction Cost Theory." Academy Management Review 21: 13-47.
Granovetter, Mark. 1985. "Economic Action and Social Structure: The Problem of Embeddedness." American Journal of Sociology 91 (November): 481-510.
Greene, William. 2004. Econometric Analysis, 5th ed. New York: Prentice Hall
Griffin, Abbie and John R. Hauser. 1996. "Integrating R&D and Marketing: A Review and Analysis of the Literature." Journal of Product Innovation Management 13 (May): 191-215.
Guerra, José M., Inés Martínez, Lourdes Munduate, and Francisco Medina. 2005. "A Contingency Perspective on the Study of the Consequences of Conflict Types: The Role of Organizational Culture." European Journal of Work and Organizational Psychology 14: 157-176

Harinck F., C.K.W. De Dreu, and A.E.M. Van Vianen. 2000. "The Impact of Conflict Issue on Fixed-Pie Perceptions, Problem Solving, and Integrative Outcomes in Negotiation." Organizational Behavior and Human Decision Processes 81: 329-358.
Heide, Jan B. and Anne S. Miner. 1992. "The Shadow of the Future: Effects of Anticipated Interaction and Frequency of Contact on Buyer-Seller Cooperation." Academy of Management Journal 35 (June): 265-291.
Horibe, Frances. 2001. Creating the Innovation Culture. New York: John Wiley & Sons.
Jansen, Justin J. P., Frans A. J. Van Den Bosch, and Henk W. Volberda. 2006. "Exploratory Innovation, Exploitative Innovation, and Performance: Effects of Organizational Antecedents and Environmental Moderators." Management Science 52 (November): 1661–1674.
Janis, Irving L. 1982. Groupthink. Boston: Houghton Mifflin.
Jehn, Karen A. 1995. "A Multimethod Examination of the Benefits and Detriments of Intragroup Conflict." Administrative Science Quarterly 40 (June): 256–282.
---- and C. Bendersky. 2003. "Intragroup Conflict in Organizations: A Contingency Perspective on the Conflict-Outcome Relationship." Research in Organizational Behavior 25: 89-244.
---- and Jennifer A. Chatman. (2000). "The Influence of Proportional and Perceptual Conflict Composition on Team Performance." International Journal of Conflict Management, 11: 56-73.
---- and Elizabeth A. Mannix. 2001. "The Dynamic Nature of Conflict: A Longitudinal Study of Intragroup Conflict and Group Performance." Academy of Management Journal 44 (April): 238-251.
----, Gregory B. Northcraft, and Margaret A. Neale. 1999. "Why Differences Make a Difference: A Field Study of Diversity, Conflict and Performance in Workgroups." Administrative Science Quarterly 44 (December): 741-763.
Kahn, K.B. 1996. "Interdepartmental Integration. A Definition with Implications for Product Development Performance." Journal of Product Innovation Management 13: 137-151.
Kelley, T. and Jonathan Littman. 2001. The Art of Innovation. New York: Doubleday.
Langfred, C. W. 2004. "Too Much of a Good Thing? Negative Effects of High Trust and Individual Autonomy in Self-Managing Teams." Academy of Management Journal 47: 385-399.
Langfred, C.W. 2007. "The Downside of Self-Management: A Longitudinal Study of the Effects of Conflict on Trust, Autonomy, and Task Interdependence in Self-Managing Teams." Academy of Management Journal 50: 885-900.
Larson, Andrea. 1992. "Network Dyads in Entrepreneurial Settings: A Study of the Governance of Exchange Relationships." Administrative Science Quarterly 37 (March): 76-104.
Lawrence, Paul R. and Jay W. Lorsch. 1967. "Differentiation and Integration in Complex Organizations." Administrative Science Quarterly 12 (June): 1-47.
Leana, Carrie R. and Harry J. van Buren III. 1999. "Organizational Social Capital and Employment Practices." Academy of Management Review 24 (July): 538-555.
Leonard-Barton, Dorothy. 1995. Wellsprings of Knowledge: Building and Sustaining the Sources of Innovation. Boston: Harvard Business School Press.
Lewicki, R. J. and B.B. Bunker. 1996. "Developing and Maintaining Trust in Work Relationships." In Trust in Organizations: Frontiers of Theory and Research, R. M. Kramer and T. R. Tyler (Eds.) . Thousand Oaks, CA: Sage, 114-139.
Li, Tiger and Roger J. Calantone. 1998. "The Impact of Marketing Knowledge Competence on New Product Advantage: Conceptualization and Empirical Examination." Journal of Marketing 62 (October): 13–29.

Lovelace, Kay, Debra L. Shapiro, and Laurie R. Weingart. 2001. “Maximizing Cross-Functional New Product Teams’ Innovativeness and Constraints Adherence: A Conflict Communications Perspective.” Academy of Management Journal 44 (August): 779-794.
Luo, Xueming, Rebecca J. Slotegraaf, and Xing Pan. 2006. “Cross-Functional ‘Coopetition’: The Simultaneous Role of Cooperation and Competition within Firms.” Journal of Marketing 70 (April): 67-80.
Matsuo, Makoto. 2006. “Customer Orientation, Conflict, and Innovativeness in Japanese Sales Departments.” Journal of Business Research 59: 242-250.
Mayer, Roger C., James H. Davis, and F. David Schoorman. 1995. “An Integrative Model of Organizational Trust.” Academy of Management Review 20 (July): 709-734.
Moorman, Christine, Gerald Zaltman, and Rohit Deshpandé. 1992. “Relationships Between Providers and Users of Market Research: The Dynamics of Trust Within and Between Organizations.” Journal of Marketing Research 29(3): 314–29.
Morgan, Robert M. and Shelby D. Hunt. 1994. “The Commitment-Trust Theory of Relationship Marketing.” Journal of Marketing 58 (July): 20-38.
Nahapiet, Janine and Sumantra Ghoshal. 1998. “Social Capital, Intellectual Capital, and the Organizational Advantage.” Academy of Management Review 23 (April): 242-268.
Pelled, Lisa H., Kathleen M. Eisenhardt, and Katherine R. Xin. 1999. “Exploring the Black Box: An Analysis of Work Group Diversity, Conflict, and Performance.” Administrative Science Quarterly 44 (March): 1-28.
Peterson, R.S. and Behfar, K.J. 2003. “The Dynamic Relationship between Performance Feedback, Trust, and Conflict in Groups: A Longitudinal Study.” Organizational Behavior and Human Decision Processes, 92: 102-112.
Podsakoff, Philip M., Scott B. MacKenzie, Jeong-Yeon Lee, and Nathan P. Podsakoff. 2003. “Common Method Biases in Behavioral Research: A Critical Review of the Literature and Recommended Remedies.” Journal of Applied Psychology 88 (October): 879-903.
Pondy, Louis R. 1967. "Organizational Conflict: Concepts and Models." Administrative Science Quarterly 12 (September): 296-320.
Porter, Thomas W. and Bryan S. Lilly. 1996. “The Effects of Conflict, Trust, and Task Commitment on Project Team Performance.” International Journal of Conflict Management 7: 361-376.
Putnam, Robert D. 1993. “The Prosperous Community: Social Capital and Public Life.” American Prospect, 13: 35-42.
Rabe, Cynthia Barton. 2006. The Innovation Killer: How What We Know Limits What We Can Imagine and What Smart Companies Are Doing about It. New York: AMACOM.
Rempel, John K., James G. Holmes, and Mark P. Zanna. 1985. “Trust in Close Relationships.” Journal of Personality and Social Psychology 49 (July): 95-112.
Rispens, Sonja, Lindred L. Greer, and Karen A. Jehn 2007. “It Could Be Worse: A Study on the Alleviating Role of Trust and Interdependence in Intragroup Conflict.” International Journal of Conflict Management 18 (4): 325-344.
Ruekert, Robert W. and Orville C. Walker Jr. 1987. “Marketing’s Interaction with Other Functional Units: A Conceptual Framework and Empirical Evidence.” Journal of Marketing 51 (January): 1-19.
Schatzel, Kim, and Roger Calantone. 2005. “Creating Market Anticipation: An Exploratory Model of Outcomes Related to a Firm’s Prosperity to Preannounce a New Product Launch.” Journal of the Academy of Marketing Science 34: 357-366.

Sethi, Rajesh, Daniel C. Smith, and C. Whan Park. 2001. “Cross-Functional Product Development Teams, Creativity, and the Innovativeness of New Consumer Products.” Journal of Marketing Research 38 (February): 73-85.
Simons, T. and Peterson, R.S. 2000. “Task Conflict and Relationship Conflict in Top Management Teams: The Pivotal Role of Intragroup Trust.” Journal of Applied Psychology 83: 102-111.
Song, X. Michael, Barbara Dyer, and R. Jeffrey Thieme. 2006. “Conflict Management and Innovation Performance: An Integrated Contingency Perspective.” Journal of the Academy of Marketing Science 34 (July): 341-356.
---- and Mark E. Parry. 1993. “R&D-Marketing Integration in Japanese High-Technology Firms: Hypotheses and Empirical Evidence.” Journal of the Academy of Marketing Science 21(2): 125-133.
Teece, David J., Gary Pisano, and Amy Shuen. 1997. “Dynamic Capabilities and Strategic Management.” Strategic Management Journal 18 (August): 509-533.
Tsai, Wenpin. 2000. “Social Capital, Strategic Relatedness and the Formation of Intraorganizational Linkages.” Strategic Management Journal 21: 925-939.
---- and Sumantra Ghoshal. 1998. “Social Capital and Value Creation: The Role of Intrafirm Networks.” Academy of Management Journal 41 (August): 464-476.
Uzzi, Brian. 1997. “Social Structure and Competition in Interfirm Networks: The Paradox of Embeddedness.” Administrative Science Quarterly 42 (March): 35-67.
---- and Ryon Lancaster. 2003. “Relational Embeddedness and Learning: The Case of Bank Loan Managers and Their Clients.” Management Science 49 (April): 383–399.
Van de Vliert, Evert, Aukje Nauta, Ellen Giebels, and Onne Janssen. 1999. “Constructive Conflict at Work.” Journal of Organizational Behavior 20 (4): 475-491.
Van Dyne, Linn and Richard Saavedra. 1996. “A Naturalistic Minority Influence Experiment: Effects on Divergent Thinking, Conflict and Originality in Work-Groups.” British Journal of Social Psychology 35 (1): 151–168.
Walker, Gordon, Bruce Kogut, and Wijian Shan. 1997. “Social Capital, Structural Holes and the Formation of an Industry Network.” Organization Science 8 (March): 109-126.
Wicks, Andrew C., Shawn L. Berman, and Thomas M. Jones. 1999. “The Structure of Optimal Trust: Moral and Strategic Implications.” Academy of Management Review 24 (January): 99-116.
Williamson, Oliver E. 1993. “Calculativeness, Trust, and Economic Organization.” Journal of Law and Economics, 36: 453-486.
Yli-Renko, Helena, Erkko Autio, and Harry J. Sapienza. 2001. “Social Capital, Knowledge Acquisition and Knowledge Exploitation in Young Technology-Based Firms.” Strategic Management Journal 22 (June-July): 587-614.
Zaheer, Akbar, Bill McEvily, and Vincenzo Perrone. 1998. “Does Trust Matter? Exploring the Effects of Interorganizational and Interpersonal Trust on Performance.” Organization Science 9 (March): 141-159.

TABLE 1
Constructs and Measurement Items

	Factor Loading	t-Value
Innovation (α = 0.85; CR = 0.87; AVE = 0.51)		
Our company accepts demands that go beyond existing products and services.	0.612	9.274
We focus on inventing new products and services.	0.571	6.445
We experiment with new products and services in our local market.	0.817	12.83
We commercialize products and services that are completely new to our company.	0.783	8.183
We frequently utilize new opportunities in new markets.	0.895	8.649
Our company regularly uses new distribution channels.	0.664	10.16
We regularly search for and approach new clients in new markets.	0.606 [a]	-
Task conflict (α = 0.85; CR = 0.82; AVE = 0.54)		
The two functions often have conflicting opinions about projects.	0.729	13.279
The two functions often have conflicting ideas.	0.758 [a]	-
The tasks pursued by the two functions are often incompatible with each other.	0.648	8.658
The two functions often have disagreements about task-related issues.	0.799	10.535
Relationship conflict (α = 0.91; CR = 0.90; AVE = 0.70)		
People in the two functions often get angry while working together.	0.783	10.952
There often are tensions in the relationship between the two functions.	0.758 [a]	-
People from the two functions do not get along well with one another.	0.922	13.1
People from the two functions generally dislike interacting with each other.	0.875	12.45
Social interaction (α = 0.81; CR = 0.83; AVE = 0.57)		
People in the two functions spend significant time together in social situations.	0.842	13.871
People in the two functions maintain close social relationships with one another.	0.966 [a]	-
People in the two functions know members of the other function on a personal level.	0.674	10.325
Our relationship with people from the other function is very informal.	0.432	5.271
Trust (α = 0.87; CR = 0.87; AVE = 0.57)		
People from the other function can always be trusted to do what is right for us.	0.632	9.445
People from the other function always keep the promises they make to us.	0.728	11.537
People from the other function are perfectly honest and truthful with us.	0.892 [a]	-
People from the other function are truly sincere in their promises.	0.844	14.513
People from the other function would not take advantage of us, even if the opportunity arose.	0.658	9.98

Notes: [a] Initial loading was fixed to 1 to set the scale of the construct.
CR = construct reliability; AVE = average variance extracted.
Correlations with the single-item measures in the follow-up survey:

Innovation	r = .43, $p < .001$
Task conflict	r = .21, $p < .05$
Relationship conflict	r = .34, $p < .001$
Social interaction	r = .44, $p < .001$
Trust	r = .36, $p < .001$

TABLE 2
Correlation Matrix (n = 232)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. Innovation																
2. Task conflict	-.06															
3. Relation. conflict	-.24**	.73**														
4. Social interaction	.27**	-.17*	-.37**													
5. Trust	.22**	-.52**	-.61**	.35**												
6. Company size	-.06	-.03	-.06	-.16*	.05											
7. Company age	-.17**	-.05	-.09	-.15*	.06	.52**										
8. Industry: manufact.	.01	-.03	-.07	-.04	.09	.11	.09									
9. Industry: services	.04	.00	.04	.00	-.08	-.15	-.13	-.58**								
10. Industry: mining	-.06	.04	.00	.05	-.06	-.06	-.10	-.31**	-.20**							
11. Industry: construct	.10	-.16*	-.12	.03	.12	.04	.05	-.13	-.08	-.04						
12. Industry: transport.	-.07	.02	.06	-.02	.01	.10	.01	-.23**	-.15*	-.08	-.03					
13. Industry: wholesal.	.06	-.01	-.01	.08	.06	-.07	-.08	-.19**	-.12	-.07	-.03	-.05				
14. Industry: retail	.00	.12	.07	-.05	-.05	.08	.35**	-.15*	-.10	-.05	-.02	-.04	-.03			
15. Industry: finance	-.12	.04	.09	-.03	-.10	.04	-.04	-.14*	-.09	-.05	-.02	-.04	-.03	-.02		
16. Marketing function	-.04	.06	-.01	-.03	.07	.17*	.19**	.03	-.04	-.08	.07	-.01	.03	.00	.09	
Mean	3.44	2.69	2.06	2.83	3.41	5.59	32.68	.47	.27	.09	.02	.06	.04	.03	.02	.49
Standard deviation	.80	.80	.88	.79	.77	2.03	37.27	.50	.45	.29	.13	.23	.19	.16	.15	.50
Minimum	1.00	1.00	1.00	1.00	1.00	1.10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
Maximum	5.00	5.00	5.00	5.00	5.00	11.31	337.0	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

**$p < .01$; *$p < .05$.

TABLE 3
Regression Results (Dependent Variable: Innovation) (n = 232)

	Model 1	Model 2	Model 3	Model 4 [c] (SEM)
Company size (log employees)	.026	.031	.034	.037
Company age (years)	-.005**	-.005**	-.005**	-.006**
Industry: manufacturing [a]	.744*	.552	.595	.646^{+}
Industry: services	.742*	.590	.629	.682^{+}
Industry: mining	.527	.317	.378	.410
Industry: construction	1.378**	1.115*	.988*	1.071*
Industry: transportation	.495	.367	.394	.427
Industry: wholesale	.907*	.669	.646	.701
Industry: retail	1.119*	.960*	.962*	1.043*
Marketing-related function [b]	-.017	-.053	-.028	-.031
Task conflict		.240**	.245**	.245**
Relationship conflict		-.279**	-.282**	-.291**
Social interaction		.142*	.156*	.153*
Trust		.098	.111	.112
H_1:Task conflict x Social interaction			**.269***	**.242***
H_2: Relationship conflict x Social interaction			**-.256***	**-.247***
H_3: Task conflict x Trust			**-.320***	**-.292***
H_4: Relationship conflict x Trust			.158	.148
R^2 ΔR^2	.078	.192 .114 (p<.01)	.233 .041 (p<.05)	-

Notes: Unstandardized coefficients (two-tailed *p*-values).
**$p < .01$; *$p < .05$; $^{+}p < .10$.
[a] Base case = Finance industry.
[b] Base case = R&D-related function.
[c] The fit indices of the structural equation model (SEM) are $\chi^2(112) = 198.96$, GFI = .92, TLI = .92, CFI = .95, RMSEA = .06

FIGURE 1: Conceptual Model of the Interplay between Cross-Functional Conflict and Cross-Functional Social Capital on Innovation

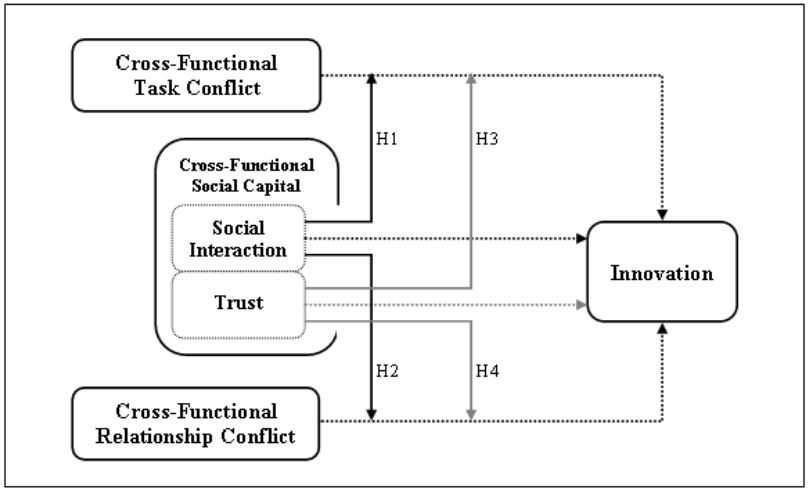

FIGURE 2: Moderating Effect of Social Interaction on the Task Conflict–Innovation Relationship

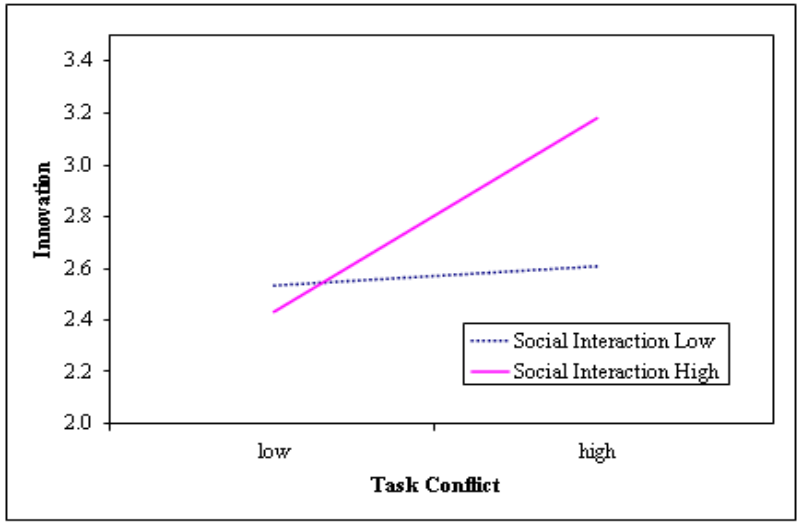

FIGURE 3: Moderating Effect of Social Interaction on the Relationship Conflict–Innovation Relationship

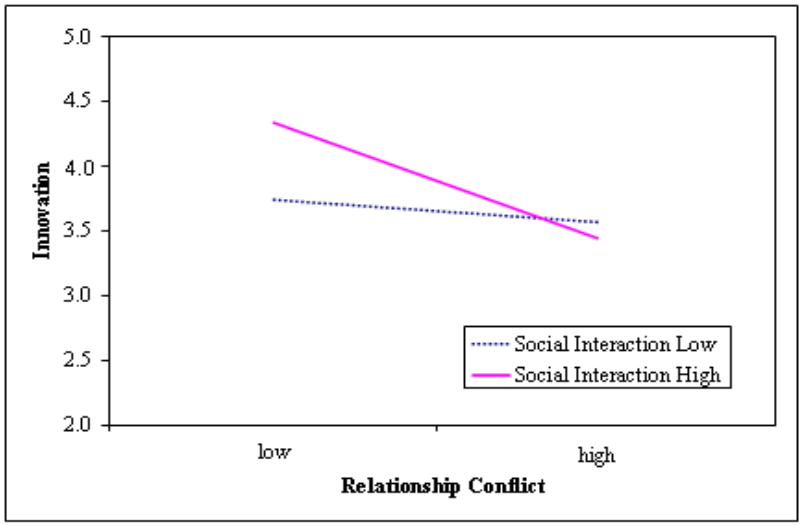

FIGURE 4: Moderating Effect of Trust on the Task Conflict–Innovation Relationship